1-20 (CANCELED)

21. (NEW) A distributed process control system for the programmable control of process devices to operate in cooperation to perform a predetermined process wherein each process device is capable of independent operation and of performing one or more related operations and wherein a process is a sequence of process steps wherein each step is defined by one or more operations of one or more of the process devices, comprising:

in association with each process device;

a device controller for controlling operation of the associated process device, each device controller including a process step memory for a storing a corresponding device process, wherein

each device process includes one or more device steps wherein each device step corresponds to a process step and controls one or more corresponding operations of the associated process device; and

an input device associated with the process device and under the oontrol of a user for directing the device controller and associated process device through each device steps of the device process for that process device, with each device step being stored directly in the process step memory of the device controller; and

a master controller operating during the execution of a device process solely for generating step execute identifiers to the device controllers, wherein

the device controllers are responsive to the step execute identifiers for cooperatively performing corresponding device steps of the device processes.

22. (NEW) The distributed process control system of claim 21, wherein a device controller is responsive to a device response output of the associated process device that indicates a state of operation of the associated process device representing that the associated process device has completed a process step for generating and providing to the master controller a step complete output indicating the completion of a device step by the device controller and the associated process device.

23. (NEW) The distributed process control system of claim 22, wherein the master controller is responsive to step complete outputs of the device controllers for generating a next step execute identifier output to the device controllers.

24. (NEW) The distributed process control system of claim 21, wherein each device controller further includes:

a step controller responsive to a step execute identifier from the master controller for

reading a corresponding device step from the process step memory and

generating control outputs corresponding to the device step to the associated process device to direct the associated process device to perform the device step.

25. (NEW) The distributed process control system of claim 21, wherein each device step includes:

at least one step command directing an operation to be performed by the associated process device; and

at least one control value indicating an operating state of the associated process device in performing the directed operation.

26. (NEW) The distributed process control system of claim 25, wherein a device controller further includes:

a device interface for translating the at least one step command and at least one control value of each device step of the associated device process into control outputs for controlling operation of the associated process device.

27. (NEW) The distributed process control system of claim 24, wherein a step controller is responsive to a device response output of an associated process device that indicates a state of operation of the associated process device representing that the associated process device has completed a process step for generating a corresponding step complete output indicating the completion of a device step by the device controller and the associated process device.

28. (NEW) The distributed process control system of claim 21, wherein the master controller further includes:

at least one input device for generating control inputs representing operations of a process device in a device step; and

a command processor responsive to the input device control inputs at times outside the execution of a device process for

generating a device step of a device process for a process device; and

providing the device step to the device controller of the process device for storage in the device controller process step memory.

29. (NEW) The distributed process control system of claim 24, wherein at least one device controller further includes:

a user input device associated with a process device associated by the at least one device controller for generating control input signals under direction of a user wherein the control input signals represent operations in a device step to be executed by the process device associated with the at least one device controller, wherein

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the step controller of the at least one device controller associated with the process device is responsive to the control input signals from the user input device associated with the process device for generating at least one device step of a device process to be executed by the process device and for indicating completion of the generation of the at least one device step to the master controller associated with the device controller and process device; and wherein

the master controller is responsive to an indication of the completion of the generation of a device step from the step controller of the device controller associated with the process device for generating a process step write identifier to at least the device controller associated with the process device; and wherein

the device controller associated with the process device that is to execute a process step of the device process is responsive to each process step write identifier from the master controller for storing in the device controller process step memory of the associated process device a corresponding device step representing a state of operation of the associated process device.

30. (NEW) The distributed process control system of claim 21, wherein a step execute identifier further includes one or more process controller identifiers identifying the process devices that are to execute a process step identified by a step execute identifier.

31. (NEW) A method for distributed programmable control of process devices to operate in cooperation to perform a predetermined process wherein each process device is capable of independent operation and of performing one or more related operations and each process device is associated a corresponding one of a plurality of device controllers wherein each device controller controls the operations of the

associated process device as directed by a process stored in the associated device controller and wherein a process is a sequence of process steps wherein each step is defined by one or more operations of one or more of the process devices, comprising the steps of:

storing a device process in each device controller wherein the device process includes one or more device steps wherein each device step corresponds to a process step and controls one or more corresponding operations of the associated process device, by

generating each device step of the device process by operation of a user controlled input device associated with the device controller wherein the input device is used by a user to direct the device controller and associated process device through each device step of the device process for the process device, and

storing each device step directly in a process step memory of the device controller each device process; and

in a master controller and during an execution of a device process, generating only step execute identifiers to each device controller, wherein

each of the device controllers is responsive to the step execute identifiers for cooperatively performing corresponding device steps of the device processes.

32. (NEW) The method for distributed programmable control of process devices of claim 31, further comprising the step of:

generating in a device controller and providing to the master controller an indication of a completion of a device step by the associated process device.

33. (NEW) A method for distributed programmable control of process devices to operate in cooperation to perform a predetermined process wherein each process device is capable of independent operation and of performing one or more related operations and each process device is associated a corresponding one of a plurality of device controllers wherein each device controller controls the operations of the associated process device as directed by a process stored in the associated device controller and wherein a process is a sequence of process steps wherein each step is defined by one or more operations of one or more of the process devices, comprising the steps of:

storing a device process in each device controller, wherein

each device process controls the operations of the associated process device and includes one or more device steps wherein each device step corresponds to a process step and controls one or more corresponding operations of the associated process device; and

in a master controller,

during an execution of a device process, generating only step execute identifiers to each device controller, wherein

each of the device controllers is responsive to the step execute identifiers for cooperatively performing corresponding device steps of the device processes,

in a device controller

generating and providing to the master controller an indication of a completion of a device step by the associated process device, and

in the master controller and responsive to the indication of the completion of a device step of a process step by each of the device controllers directing associated process devices in performing a process,

generating a next step execute identifier to the device controllers directing the associated process devices in performing a process.

34. (NEW) The method for distributed programmable control of process devices of claim 31, further comprising the steps of:

in each process device and responsive to a step execute identifier from the master controller,

reading a corresponding device step of the device process, and

generating control outputs corresponding to the device step to the process device to direct the associated process device to perform the device step.

35. (NEW) The method for distributed programmable control of process devices of claim 31, wherein each device step includes:

at least one step command directing an operation to be performed by the associated process device; and

at least one control value indicating an operating state of the associated process device in performing the directed operation.

36. (NEW) The method for distributed programmable control of process devices of claim 35, further comprising the step of:

translating the at least one step command and at least one control value of each device step of the associated device process into control outputs for controlling operation of the associated process device.

37. (NEW) The method for distributed programmable control of process devices of claim 34, wherein a device controller is responsive to a state of operation of the associated process device representing that the associated process device has completed a process step for generating a corresponding step complete output indicating the completion of a device step by the device controller and the associated process device.

38. (NEW) The method for distributed programmable control of process devices of claim 31, further including the steps of:

in the master controller and only during a period outside of an execution of a device process, providing control inputs representing operations of a process device in a device step;

generating from the control inputs a device step of a device process for the process device; and

providing the device step to the device controller as a device step of a device process of the process device.

39. (NEW) The method for distributed programmable control of process devices of claim 34, further including the steps of:

by operation of a user input device associated with a process device,

generating control input signals under direction of a user wherein the control input signals represent operations in at least one device step of a device process to be executed by the process device,

by operation of a step controller of a device controller associated with the process device that is to execute the at least one device step of the device process and in response to the control input signals from the user input device,

generating the at least one device step of the device process to be executed by the process device, and

indicating completion of the generation of the at least one device step to the master controller associated with the device controller and process device;

by operation of the master controller and in response to an indication of the completion of the generation of a device step provided to the master controller from the step controller of the device controller associated with the process device,

generating only a process step write identifier from the master controller to at least the device controller associated with the process device; and

by operation of the device controller associated with the process device that is to execute the at least one process step of the device process and in response to each process step write identifier from the master controller,

storing the corresponding device step representing a state of operation of the associated process device in the process step memory of the associated device controller.

40. (NEW) The method for distributed programmable control of process devices of claim 31, wherein a step execute identifier further include one or more process device identifiers identifying the process devices that are to execute a process step identified by a step execute identifier.